

Notice of Allowability

Application No.

10/795,881

Examiner

ANH PHUNG

Applicant(s)

KAWAI ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 32-41.
3. ☒ The drawings filed on 08 March 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/190,069.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 03/08/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other Search History.


ANH PHUNG
PRIMARY EXAMINER

Detailed Office Action

1. In response to the U.S. Application Ser. No. 10/795,881 filed on March 8, 2004, and Preliminary Amendment filed on May 17, 2004, claims **32-41** are pending in the application.

Examiner's amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The specification has been amended as follows:

Page 1, after "July 3, 2002," insert -- **now U.S. Pat. No. 6,717,858, issued on Apr. 17, 2004** --.

The examiner's amendment has been made in order to place the application in a condition for allowance.

Priority

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/190,069, filed on July 3, 2002.

Information Disclosure Statement

4. This office acknowledges receipt of the following items from the Applicant:
Information Disclosure Statement (IDS) filed March 8, 2004.
Information disclosed and listed on PTO 1449 was considered.

Examiner's Statement of Reasons for Allowance

5. Claims **32-41** are allowed.

Chen et al. (US 5,995,417), Yeom (US 5,936,890), Hung et al. (US 5,835,414), and Lin et al. (US 5,748,535) disclose a semiconductor device having a PPL circuit similar to that of the present application, but fail to teach:

“executing a first data writing operation in parallel for the plurality of memory cells connected to each corresponding single word line, for each of the plurality of memory cell arrays with respect to which the collective data writing operation is performed; verifying the data written in the first data wiring operation, and stopping a data writing operation with respect to a first memory cell array in which writing is completed in all of the memory cells of the plurality of memory cell arrays, at a first time; executing a second data writing operation for a second memory cell array which is different from the first memory cell array of the plurality of memory cell arrays; and verifying the data written by the second data writing operation, and stopping the second data writing operation with respect to the second memory cell array in which writing is completed in all of the memory cells of the plurality of memory cell arrays, at a second time later than the first time” as claimed in the independent claim **32**; or

“verifying the latched data, and when all of the latched data at corresponding latch circuits connected to a first memory cell array of the plurality of memory cell arrays with respect to which the collective data writing operation is performed are data unnecessary to be written, not executing a writing operation for the first memory cell array; when the latched data at corresponding latch circuits connected to a memory cell

array different from the first memory cell array of the plurality of the memory cell arrays with respect to which the collective data writing operation is performed include data necessary to be written, executing a first data writing operation for the memory cell array different from the first memory cell array" as claimed in the independent claim 37.

Any comments considered necessary by applicants must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comment on Statement of Reasons for Allowance".

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **ANH PHUNG** whose telephone number is **(571) 272-1883**. The examiner can normally be reached on Monday-Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD ELMS**, can be reached on **(571) 272-1869**. The fax phone number for the organization where this application or proceeding is assigned is **(703) 872-9306**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866-217-9197** (toll-free).

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AKP

A handwritten signature in black ink, appearing to read "Anh Phung".

**ANH PHUNG
PRIMARY EXAMINER**